IN THE CLAIMS:

1. (CURRENTLY AMENDED)   A method of logical modeling operator interaction with a programmable logic controller logical verification system, said method comprising the steps of:

constructing a flowchart <u>that describes</u> ~~of~~ interaction of an operator in a workcell using a computer <u>wherein such interaction comprises sequential operations and asynchronous operations</u>;

<u>modeling the operator as an input to a programmable logic controller (PLC) by writing a control model of the operator interaction in the workcell based on predefined conditions described in the flowchart;</u>

testing the ~~flowchart~~ <u>control model</u> by a PLC logical verification system on the computer as to whether <u>PLC</u> logic ~~of the flowchart~~ <u>for the workcell</u> is correct; and

~~using the flowchart to test PLC code and building~~ <u>loading the PLC logic in the PLC controlling</u> the workcell if the <u>PLC</u> logic ~~of the flowchart~~ <u>for the workcell</u> is correct <u>and using the PLC logic by the PLC to operate the workcell</u>.

2. (ORIGINAL)   A method as set forth in claim 1 wherein the step of testing comprises starting a timer and determining whether the operator interaction of the flowchart is completed within a predetermined time.

3. (ORIGINAL)   A method as set forth in claim 2 wherein the step of testing includes initializing the operator interaction of the flowchart prior to starting the timer.

4. (ORIGINAL)   A method as set forth in claim 3 wherein said step of testing includes idling the operator prior to starting the timer.

5. (PREVIOUSLY PRESENTED)   A method as set forth in claim 1 wherein said step of constructing comprises constructing a series of commands for the operator using the computer.

6. (ORIGINAL)   A method as set forth in claim 5 wherein the commands have at least one resource.

7. (ORIGINAL)   A method as set forth in claim 6 wherein the at least one resource has at least one capability.

8. (ORIGINAL)   A method as set forth in claim 1 wherein the step of testing includes executing the commands when a timer is started.

9. (CURRENTY AMENDED)   A method of logical modeling operator interaction with a programmable logic controller logic verification system, said method comprising the steps of:

constructing a flowchart that describes ~~of~~ a series of commands for an operator in a workcell using a computer wherein such commands comprise sequential operations and asynchronous operations;

modeling the operator as an input to a programmable logic controller (PLC) by writing a control model of the operator interaction in the workcell based on the commands in the flowchart;

testing the control model by starting a timer and executing the commands by a PLC logical verification system on the computer to test whether PLC logic ~~of the flowchart~~ for the workcell is correct; and

~~using the flowchart to test PLC code and building~~ loading the PLC logic in the PLC controlling the workcell if the PLC logic ~~of the flowchart~~ is correct and using the PLC logic by the PLC to operate the workcell.

10. (ORIGINAL)   A method as set forth in claim 9 wherein the step of testing includes determining whether the commands of the flowchart are completed within a predetermined time.

11. (ORIGINAL)   A method as set forth in claim 10 wherein the step of testing includes initializing the operator interaction of the flowchart prior to starting the timer.

12. (ORIGINAL)   A method as set forth in claim 11 wherein said step of testing includes idling the operator prior to starting the timer.

13. (ORIGINAL)   A method as set forth in claim 9 wherein said step of constructing comprises constructing commands having at least one resource.

14. (ORIGINAL)   A method as set forth in claim 13 wherein the at least one resource has at least one capability.

15. (CURRENTLY AMENDED)   A method of logical modeling operator interaction with a programmable logic controller logic verification system, said method comprising the steps of:

constructing a flowchart of a series of commands having at least one resource with at least one capability for an operator in a workcell using a computer wherein such commands comprise sequential operations and asynchronous operations;

modeling the operator as an input to a programmable logic controller (PLC) by writing a control model of the operator interaction in the workcell based on the commands in the flowchart;

initializing the operator interaction and idling the operator;

testing the control model by starting a timer, executing the commands by a PLC logical verification system on the computer, and determining whether the commands are completed within a predetermined time to test whether PLC logic of the flowchart for the workcell is correct; and

using the flowchart to test PLC code and building loading the PLC logic in the PLC controlling the workcell if the PLC logic of the flowchart is correct and using the PLC logic by the PLC to operate the workcell.